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In defense of malingering: a cautionary note

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IN DEFENSE OF MALINGERING: A CAUTIONARY NOTE

A Thesis

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
In partial fulfillment of the
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Master of Arts

In

The Department of Psychology

by
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Abstract

The simulation and exaggeration of job related injury symptoms is a significant problem in the Workers' Compensation system. The result of simulation and exaggeration is the inappropriate allotment of financial resources to workers whose actual injuries do not warrant such compensation. Psychology as a field has done much research in the past years to address the detection of malingering. Most of that focus has viewed malingering behavior as a personal choice, as well as being indicative of a character flaw. However, the degree to which external factors such as work conditions increase the likelihood of an individual malingering has received minimal attention. The degree to which work factors such as pressure to return to work, and post-injury work environment increase the individual's willingness to malingering were studied. Participants were placed into one of three groups and given a questionnaire. They were asked to rate how willing they would be to exaggerate symptoms of an injury if the instance described in the vignette applied to themselves. No significant differences were found among questionnaire groups. A subsidiary analysis found that perception of pressure/fairness was significantly related to reported willingness to malingering. Further, it was found that the relationship between perceived pressure and willingness to malingering was curvilinear such that both low and high levels of perceived pressure were significantly related to greater willingness to exaggerate symptoms. It was concluded that an employee's perception of work environment characteristics may significantly alter an employee's willingness to malingering.

Introduction

Workers' Compensation exists to provide employees with some measure of financial security in the event of a work-related injury. It provides medical and rehabilitative services, as well as income for the injured employee who is unable to work. Government mandates for employers to provide this coverage were first seen in the early decades of the twentieth century (Carr, 1998). In 1910, New York was the first state to enact Workers' Compensation laws. By 1948, every state had implemented some form of Workers' Compensation legislation (Fishback, 1998; Peele & Tollerud, 2001). The early legislation left much to be desired in regard to employee rights. For instance, in many states the employer was not liable if the injury was the employee's fault or if the injury was within the expected risks of the job (Peele & Tollerud, 2001). The resulting delays in service, and costs of litigation for the employer and employee eventually lead to our current system of no-fault coverage.

Workers' Compensation claims are a significant factor in rising healthcare costs. This financial strain has prompted researchers to study the legitimacy of these Workers' Compensation claims. In doing so, the impact of receiving benefits and its level of influence in the recovery process has been analyzed many times (Beals, 1984; Brewin, Robson, & Shapiro, 1983; Cook, 1972; Greenough & Fraser, 1989; Iverson, King, Scott, & Adams, 2001; Salcedo-Wasicek & Thirlby, 1995) with the conclusion that receiving benefits prolongs the course of disability.

This form of “Compensation Neurosis,” while receiving much current attention, is not a new term. The concept that compensation could play a part in the delayed recovery of an individual has existed since the late 1800’s when many European physicians “observed that their accident laws were ‘the soil upon which traumatic neurosis have grown’ and that ‘many malingerers had been cured by successful suits at law’”(Crenshaw, 1975 cited in Beals, 1984). Researchers continue to suggest just such a thing (Beals, 1984; Brewin et al., 1983; Cook, 1972; Greenough & Fraser, 1989; Iverson et al., 2001; Salcedo-Wasicek & Thirlby, 1995).

In 1972, Cook conducted a study concerning factors that influence recovery after minor head injuries. After controlling for age, gender, and the severity of the injury, it was found that the participants who had filed a claim for Compensation showed significantly greater amounts of time absent from work. Cook also notes that those who filed claims reported significantly more headaches than those who were not seeking Compensation. This finding is worth noting because the self-report nature of headache pain is vulnerable to factors other than the insult from the injury itself and cannot be verified or refuted by any sort of objective testing.

In another study, Brewin, Robson and Shapiro (1983) examined the degree to which various psychological factors influenced the recovery process in industrial injuries. They found that job satisfaction, marital status, the absence of an income supplement and feelings of culpability were all factors that significantly influenced return to work periods. Of all the variables examined, the authors

noted that culpability bore the strongest relation to time-off work “indicating that the patient who felt his accident was due to his own carelessness or negligence was more anxious to return to work quickly...it was whether or not he deserved blame which appeared to be crucial” p.455

Iverson, King, Scott and Adams (2001) compared groups of litigating patients with and without head injury to similar groups of non-litigating patients. All participants had presented themselves for evaluation of either chronic pain or closed head injury (CHI). Half the total sample was involved in litigation. Four groups were thus composed: (a) Workers’ Compensation claimants with chronic pain, (b) patients with chronic pain who were candidates for dorsal column stimulator placement, (c) litigating patients with CHI, and (d) non-litigating patients with CHI. Figure 1 further shows the study’s design.

	Litigating	Non-Litigating
CHI	(C) Litigating Patients with CHI	(D) Non-Litigating Patients with CHI
Chronic Pain	(A) Workers' Compensation Claimants with Chronic Pain	(B) Surgery Candidates with Chronic Pain

Figure 1: Representation of the research design used by Iverson, King, Scott and Adams (2001).

It was found that the Workers’ Compensation pain claimants endorsed over four times as many symptoms as the pain surgery candidates. Also, the Workers’ Compensation pain claimants reported significantly more symptoms

than the non-litigating CHI patients, but not more than the litigating CHI patients. No significant difference was found between litigating and non-litigating CHI patients. Interestingly, it was also found that the Workers' Compensation pain patients and the litigating CHI patients, who had dissimilar medical diagnosis, reported very similar symptoms. This finding again suggests that compensation is a significant factor in the rehabilitative course of the individual, in that the two quantitatively highest groups for symptom endorsement were the two litigating groups, even though the significant differences were revealed only on several of the comparisons.

In the case where an employee has suffered an insult to the brain or exposure to neurotoxins, a common means of quantifying impairment is to use various self-report symptom checklists. In an effort to evaluate the usefulness of this technique, Dunn, Lees-Haley, Brown, Williams and English (1995) compared the base rates of symptom complaints of personal injury claimants who had been exposed to neurotoxins with those obtained from groups of non-litigating uninjured and brain injured patients. The litigating group endorsed significantly more symptoms than the head injured and non-injured groups. These findings are significant in light of the work done by Gouvier, Uddo-Crane, and Brown (1988), whose assessment of the base rates of post-concussional symptoms found no significant differences between groups of head injured and normal participants except for complaints of concentration problems when reading and feelings of restlessness. Thus, the results of Dunn et al's (1995) study suggest

that the presence of litigation may be a significant factor when considering response bias.

In a study concerning the postoperative course after inguinal herniorrhaphy, after controlling for age, work level, gender, and pre-existing medical condition, Salcedo-Wasicek et al. (1995) found that participants with Workers' Compensation coverage took at least four times longer to return to work than participants with commercial insurance. This situation might not be solely due to the Workers' Compensation context, however. Concerning this difference Salcedo-Wasicek et al. (1995) note:

"The longer period before return to work may be largely accounted for by the recommendations of the surgeons and employers. Many surgeons recommend, and employers require, no heavy lifting for 6 weeks after inguinal hernia repairs. Therefore, the statistically significant difference in return to work in patients receiving Workers' Compensation vs. patients with commercial insurance (36.5 and 8.5 days, respectively) may not be entirely patient dependent" p. 31.

Salcedo-Wasicek et al. (1995) thus explain that physician and employer requirements for employees not to return to work for the duration of a specific time period may account for the longer periods of time away from work. In addition, it should be noted that commercial insurance providers, in an attempt to reduce financial costs, may emphasize an early return to work policy, in which the employee performs some other job in a reduced capacity (a.k.a. light duty). A longer period before returning to work was not the only significant difference that was found by Salcedo-Wasicek et al. (1995) who comment further:

"patients with Workers' Compensation reported prolonged pain after surgery. We believe this is an extremely important observation; that the pain perceived by the patient is influenced more by socioeconomic factors than by the procedure or the anatomy involved."

An abundance of evidence exists that points to one thing: the recovery process is significantly altered by the presence of certain socioeconomic factors independent of the physical results of the injury. Thus, the possibility of malingering injury symptoms and more specifically, the factors associated with a higher probability of an individual choosing to malingering must be addressed.

On a basic level, malingering always has the goal of misrepresenting one's true state of being, whether psychologically, or in terms of cognitive or somatic deficits. There are two opposite ways in which this is done: simulation and dissimulation. Simulation usually entails the adoption of symptoms that the simulator believes to represent the disorder being feigned. Dissimulation is the intentional minimization of true symptoms in the attempt to appear "normal." The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) states:

The essential feature of Malingering is the intentional production of false or grossly exaggerated physical or psychological symptoms, motivated by external incentives such as avoiding military duty, avoiding work, obtaining financial compensation, evading criminal prosecution, or obtaining drugs. Malingering may represent adaptive behavior-for example, feigning illness while a captive of the enemy during wartime. Malingering should be strongly suspected if any of combination of the following is noted:

1. Medico legal context of presentation (e.g., the person is referred by an attorney to the clinician for examination).
2. Marked discrepancy between the person's claimed stress or disability and the objective findings.
3. Lack of cooperation during the diagnostic evaluation and in complying with the prescribed treatment regimen.
4. The presence of Antisocial Personality Disorder (American Psychiatric Association, 1994).

Multiple authors have pointed out that the DSM-IV's definition is insufficient (Sweet 1999; Hall 1996; Gouvier 1998). Sweet (1999) remarks that if

these criteria were followed literally, there would be an overwhelming number of individuals viewed as malingerers who were in fact exhibiting true symptoms

(Sweet 1999). Hayes, Hilsabeck, and Gouvier (1999) also note:

“Experienced clinicians know malingering is more complex. In the neuropsychological arena, a clinician must distinguish among symptoms with organic causation, functional causation, and conscious, deliberate causation, and then make an attribution about the degree to which each of these vectors contribute to the overall clinical presentation.” P.250

One such oversimplification made concerning malingering is considering it as a dichotomous variable (either it is present or absent). It is more useful to view malingering as falling on a continuum with varying levels of simulation or exaggeration of symptoms. The individual does not falsely state symptoms all of the time, nor does the individual exaggerate all symptoms equally (Rogers, 1988). Likewise, there is also a degree of intentionality with which the individual will malingering symptoms (Sweet, 1999).

Malingering maybe even seen as adaptive. The criminal might use all means available, irrespective of social acceptance, in order to avoid the death penalty; even if this includes malingering memory impairment or psychosis. Further, it might be considered adaptive if the injured employee exaggerated true symptoms in the effort to insure that compensation necessary to ensure his or her family's well being would be provided.

Yelin, Meenan, Nevitt, Michael, and Epstein (1980) studied the level that various social and work factors contribute to the development of disability for patients with rheumatoid arthritis. It was found that the factors measuring autonomy within the work place were predictive of the probability of work loss.

Those who were self employed had a significantly lower probability of disability than those who worked for someone else. It was also found that those who had some control over their activities and pace of work, opposed to a supervisor controlling both pace and activity, had a significantly lower probability of time off work.

Sykes, Hanley, Boyle and Higginson (2000) further evaluated the role that work characteristics play in employee duration of absence from work following an injury. It was found that the factors most involved in returning to work were job decision latitude, depression, and work social interaction. The authors noted more specifically, "Individuals rating their work as lacking in control, with no opportunities for work social interaction, and who are depressed, were less likely to have returned to work one year post discharge." P. 618 Employees who have a greater degree of decisional latitude may be more likely to return to work quickly due to a greater ability to what activities and when to do them (e.g. when to take breaks). The ability to choose activities may be a significant factor in that the rehabilitative course of many injuries is marked by periods of pain flare-ups. The ability to choose to take a break during one of the periods may increase an employees willingness to return to work sooner.

Catchlove and Cohen (1982) offer further evidence suggesting that work characteristics alter the successful return to work of the injured employee. They retrospectively analyzed two groups of Workers' Compensation patients with chronic pain. Patients had all participated in a standard treatment plan that included the use of anesthetic blocks, psychotherapy, transcutaneous nerve

stimulation, relaxation therapy, biofeedback, and physiotherapy. Roughly half of the patients were assigned to participate in a directive return to work program in which they were advised at the onset of treatment that they were expected to return to work within 1-2 months and were guided in setting work goals commensurate with their injury. Patients who participated in the directive return to work program returned to work significantly sooner and requested significantly less anesthetics than patients whose treatment plan did not include the directive return to work program.

These findings suggest that by altering the characteristics of the work environment (increased decision latitude and a gradual return to work program), and the structure of the rehabilitation efforts, employees can be made more or less likely to return to work quickly. Thus, a degree of the intentionality with which a worker malingers may be, in part, attributable to the environmental work conditions and rehabilitation conditions that the employer creates. Thus, the relationship between pressure and willingness to malingering is hypothesized to be curvilinear. That is to say, an individual's willingness to malingering following an injury that produces a short-term period of disability will be greater for both environments with too little and too much pressure to return to work quickly. However, at a moderate amount of pressure, the employee will be less willing to malingering.

Methods

Participants

Initially, 120 college students at Louisiana State University were recruited; however, because of incomplete questionnaires, responses from nine participants had to be deleted, resulting in a final sample of 111 college students (55 male and 56 female; mean age = 21.18, $SD = 4.18$). Participants completed the survey in exchange for a reward (ice cream bar or beverage) on the campus “quad,” a large landscaped area central to the campus. The sample size was chosen based on the results of a power analysis, which found power to be .98 with 40 participants in each of the three conditions and a large effect size (Cohen’s $f = .40$, $\alpha = .05$). A review of relevant studies generally found a large effect size (Brewin, Robson, & Shapiro, 1983; Cook, 1972; Greenough & Fraser, 1989; Iverson, King, Scott, & Adams, 2001; Salcedo-Wasicek & Thirlby, 1995). An experimental design was used, with 37 participants assigned to one of three conditions.

Materials

Questionnaires were developed which described an employee who had been injured while working. The questionnaires varied in the amount of pressure for the employee to return quickly to pre-injury work status. Pressure to return to work varied on three levels: low, medium, and high (see appendix A).

To check whether the manipulation of pressure to return to work had been successful, a two item “perceived fairness” scale was devised (see appendix). Specifically, participants were asked, “In your opinion, how much pressure does

the employer put on the employee to return to work quickly?” and “Do you find the employer’s policy fair and reasonable?” Responses indicating the degree of perceived pressure/fairness were made on 5-point scales (see appendix).

To examine the degree to which participants were willing to exaggerate their symptoms, a three-item “willingness to malingering” scale was devised (see appendix). Responses were made on 5-point scales, ranging from “not willing” (1) to “extremely willing” (5). The psychometric properties of the two response scales are presented in the results section.

Procedure

Data were collected on two occasions (60 questionnaires per occasion). Each occasion was on a weekday afternoon and pedestrian traffic was relatively high. Participants were blocked by gender and then pair-wise randomly assigned to one of three groups until the groups filled their cells and were excluded from availability for further assignment. Each participant received one questionnaire based upon group membership. Following obtaining informed consent, the author individually instructed the participants to complete their respective questionnaires. Two undergraduate research assistants collected the completed questionnaires. After returning the completed questionnaire, each participant received a reward (ice cream bar or beverage) for participation and was debriefed.

Results

Psychometric Properties of Response Scales

As a first step in evaluating the results, the psychometric properties of the two response scales (willingness to malingering and perceived vignette fairness/pressure) were examined. A principal components analysis with varimax rotation documented that the five items loaded on two separate factors, consistent with the hypothesized item structure. Factor loadings of the items are presented in Table 2. As expected, the five items formed two separate factors: willingness to malingering and perceived fairness/pressure. Both factors had Eigenvalues of above 1 (2.302 for willingness to malingering and 1.181 for perceived fairness/pressure) and accounted for 69.649% of the total variance.

As a next step in scale evaluation, internal consistency coefficients (Cronbach's alpha) of the two scales were inspected. For the willingness to malingering scale, alpha was .794 when all three items were included; however, an even higher value of .815 was attained when item 2 (willingness to feign pain) was deleted. Item 2 was thus deleted from the final willingness to malingering scale. This deletion of item 2 was also justified for two additional reasons: (1) Item 2 had the weakest relative loading on Factor 1 but strongest relative loading on Factor 2 in the principal components analysis (see Table 1); and (2) the wording of item 2 appeared more confusing/ambiguous, compared to the other two items (e.g., the wording of the item itself ["would you tell your doctor...?"] did not match the wording of the response scale ["extremely willing" to "not willing"]).

Table 1: Response Scale Analysis: Principal Components Analysis with Varimax Rotation

Items	Factors	
	Factor 1	Factor 2
	(Willingness to Malingering)	(Perceived Fairness)
Item 1 (willingness to exaggerate pain)	.816	.089
Item 2 (willingness to feign pain symptoms)	.794	.273
Item 3 (willingness to exaggerate disability)	.890	-.025
Item 4 (perceived pressure to return to work)	.126	.807
Item 5 (perceived fairness of policy)	.051	.801

Internal consistency of the perceived fairness/pressure scale was somewhat low (Cronbach's alpha = .49). Based on this result, separate analyses were conducted for these two (perceived fairness and perceived pressure).

Manipulation Check

Two one-way ANOVAs were performed to test whether participants in the "high pressure" condition rated the vignette as less fair and as conveying more pressure than did those in the other two conditions. Significant differences were found for question 4 ("perceived pressure"), $F(2, 108) = 4.132$, $p = .019$. A post hoc Tukey test indicated that participants in the "low pressure" condition

endorsed less perceived pressure than those in the other two conditions ($ps < .05$). However, the “medium pressure” and “high pressure” conditions did not differ in perceived pressure. A one-way ANOVA with question 5 (“perceived fairness”) as the dependent variable attained only marginal significance, $F(2, 108) = 2.895$, $p = .060$. Given the non-significance of the ANOVA, no post hoc tests were performed. However, the pattern of the means appeared similar for question 5, compared to question 4 (see Table 2).

Table 2. Means and Standard Deviations: Response Scale Items by Conditions
Note: Standard deviations in parentheses.

Items	Condition		
	Low Pressure ($N = 38$)	Medium Pressure ($N = 37$)	High Pressure ($N = 37$)
Item 1 (willingness to exaggerate pain)	2.579 (1.200)	2.919 (1.233)	3.054 (1.026)
Item 2 (willingness to feign pain symptoms)	2.237 (1.324)	2.135 (1.159)	2.081 (1.010)
Item 3 (willingness to exaggerate disability)	2.763 (1.283)	2.811 (1.351)	2.541 (1.070)
Item 4 (perceived pressure to return to work)	3.132 (1.119)	3.703 (0.939)	3.730 (0.990)
Item 5 (perceived fairness of policy)	2.684 (0.873)	3.108 (0.994)	3.216 (1.158)

Hypothesis Test

A one-way ANOVA was performed to test for differences in willingness to malingering among the three conditions. The three-item willingness to malingering scale was used as the dependent variable. No differences in willingness to malingering were observed among the three groups, $F(2, 109) = .295, p = .745$.

Subsidiary Analyses

Exploratory analyses were conducted to determine if participants' perception of pressure and fairness would relate to their willingness to exaggerate work-related injuries. Question 4 ("perceived pressure") correlated .253 ($p < .01$) and question 5 ("perceived fairness") correlated .325 ($p < .001$) with the 2-item willingness to malingering scale. Thus, consistent with the rationale described in the introduction, the perceived fairness/pressure conveyed by the vignettes did relate to participants' willingness to exaggerate symptoms. These associations emerged in the combined sample, across all three conditions.

It was hypothesized that participants who perceived very low levels of fairness/pressure or very high levels of fairness/pressure would both be highly willing to exaggerate symptoms. That is, it was hypothesized that a curvilinear relationship ("U-shaped curve") would exist between fairness/pressure and willingness to exaggerate symptoms. Two multiple regression analyses were conducted to test for the presence of these hypothesized curvilinear effects.

In the first analysis, question 4 ("perceived pressure") was used as the independent variable. In this analysis, the linear as well as quadratic effects were entered conjointly as predictors of willingness to malingering.

Following guidelines by Aiken and West (1991), the independent variable was centered (setting its mean at zero but leaving the standard deviation intact) prior to constructing the curvilinear term. Results indicated that both the linear and quadratic effects were significant, $F(2, 109) = 10.465, p < .001$, together accounting for 16.1% of the variance in willingness to malingering. The standardized regression coefficient (beta) was .365 for the linear term and .331 for the quadratic term. Figure 2 shows the nature of this quadratic effect. As hypothesized, both very low and very high levels of perceived pressure were associated with higher levels of willingness to malingering.

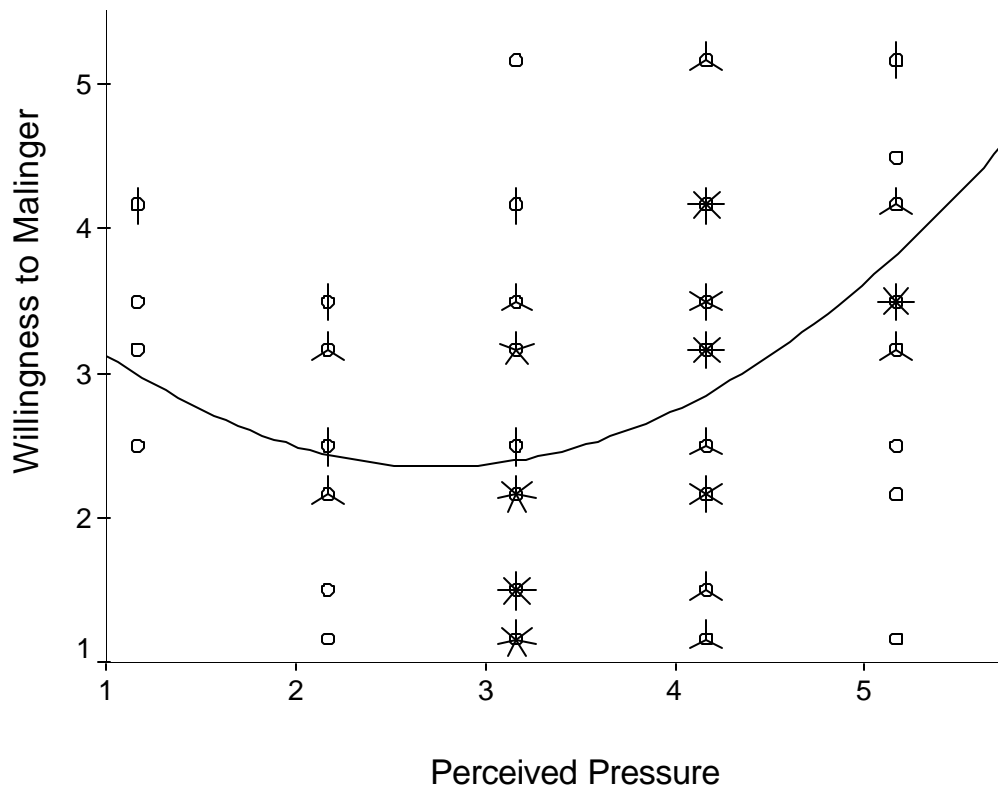


Figure 2: Scatter plot depicting the association between perceived pressure and willingness to malingering.

In the second analysis, question 5 (“perceived fairness”) was used as the independent variable. Again, the linear as well as the quadratic terms were entered conjointly, and the independent variable was centered prior to constructing the quadratic term. In this analysis, neither the linear nor the quadratic term emerged as uniquely significant predictor of willingness to malingering. Thus, the hypothesized curvilinear association was documented for perceived pressure but not for perceived fairness.

Summary of Results

In summary, results of the manipulation check found significant differences for perceived pressure across vignettes. However, perceived fairness did not differ among the three groups. Results of the primary hypothesis test found no significant differences in willingness to malingering among the questionnaire groups.

A subsidiary analysis found that the perception of pressure/fairness was significantly correlated with willingness to exaggerate symptoms. Further, a curvilinear relationship was found between perceived pressure and willingness to malingering.

Discussion

The present study failed to find significant differences among questionnaire groups. The failure to find significant differences among questionnaire groups most likely has multiple explanations. The first and most obvious reason is that there indeed may be no within population differences. However, in light of the subsidiary analysis, it appears that there are indeed significant differences within the population. Thus, it is held that the failure to find significant differences among questionnaire groups may rather be due to a combination of the following factors.

The first factor is the idiosyncratic nature of the perception of pressure and fairness. Factors that influence an individual's perception of pressure and fairness may be varied and not anchored to policy content. While the factors that were expected to influence an individual's perception were controlled for (i.e. previous Workers' Compensation experience), it is likely that there are other variables that play an influential role, which were not controlled for. For example, Sykes et al. (2000) reported depression as a significant factor in returning to work. While it was less predictive than job decision latitude, it may be significantly related to a person's willingness to exaggerate injury symptoms. Thus, it is reasonable to suspect that the affect of the participants in the current study might have influenced their responses to the questionnaires. Future studies that evaluate if affect and perceived pressure have a combined effect upon a person's willingness to malingering may elucidate this point. Further investigation to determine which environmental or personal variables influence an individual's

perception of pressure/fairness may benefit the development of more adequate means for sampling this behavior.

Another possibility for why the questionnaire groups did not differ significantly in reported willingness to malingering is that the questionnaires may have been inadequately designed to detect variations among groups. Results of the manipulation check found that on question 4 (“perceived pressure”), significant differences were only between the “low pressure” group and the other two groups. The “medium pressure” and “high pressure” groups did not differ in levels of perceived pressure. Further, no significant differences were found among groups on question 5 (“perceived fairness”). This indicates that the manipulation among questionnaires was not strong enough for all participants to perceive significant differences. However, as this was a between groups design, participants did not read alternate forms of the questionnaire. Future research using a within groups design may be able to employ more subtle variations among questionnaires. In light of the findings of the subsidiary analysis, it is reasonable to suspect that future research using more disparate questionnaire groups may find significant differences while maintaining a between-groups design.

Specific suggestions for improving questionnaires of this nature include first, to increase the range of responses available. The use of a 5-point Likert scale may have restricted the true variability among responders. Second, a small number of participants indicated that they were not confident that they had understood all parts of the vignette. The questionnaire in this study was found to

have a 9th grade Flesch-Kincaid reading level. Thus, the reading level of the questionnaires may have been too difficult for some participants. Development of future questionnaires should consider such limitations.

Finally, it should be noted that the present study was comprised wholly of college students. While college students do comprise a small part of the workforce, future research that includes a more representative sample of the workforce may yield different results.

In spite of the failure to find significant differences among questionnaire groups in willingness to exaggerate symptoms, the results of the subsidiary analysis did indeed find that those who perceived a greater degree of unfairness and a greater degree of pressure to return to work were more likely to report a greater willingness to exaggerate their injury. Thus, the present findings are in agreement with previous studies that have found the employee's work environment as a significant factor related to extended time off for disability (Yelin et al., 1980; Sykes et al., 2000; Catchlove & Cohen, 1982).

The present study's contributions to this research are in two areas. The first is in that this study examined the perception of pressure and fairness instead of more observable environmental factors. It is thus of specific importance that, in spite of the failure to find significant differences among questionnaire groups, the perception of pressure and fairness were significantly correlated with willingness to exaggerate injury symptoms. This indicates that a person's perception of the environment may be more predictive of willingness to malingering than the actual environment. Thus, future research that addresses what effect

receiving compensation benefits may play in return to work periods should also take into account the individual's perception of their work environment.

A second area in which this study contributes to the literature is in that a curvilinear relationship between perceived pressure and willingness to exaggerate symptoms was found. That is to say, the perception of both high and low levels of pressure to return to work were related to reported willingness to exaggerate injury symptoms. This is significant in light of the work done by Catchlove and Cohen (1982), who showed that those who participated in a directive return to work program had significantly shorter recovery periods than those who did not participate in the directive return to work program. This suggests that simply easing an employer's return to work policy may result in similar numbers of employees who are willing to exaggerate their injury symptoms. Finding the middle ground between too much pressure to return to work and too little pressure to return to work will most likely be a difficult task. However, assessing the employee's perception of the pressure to return to work may be key in attempting to find such a compromise.

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Appendix

Willingness to Malingering Questionnaires

Questionnaire A

Please read the following scenario and answer the questions. There are no right or wrong answers.

Imagine that you have worked as a freight clerk for the past five years by a major manufacturing plant in your community. When you arrive at work, you sign in on your time card and proceed to report to your supervisor who assigns you your duties and workstation where you stay until you hear the bell for the lunch break.

Returning to your workstation after your lunch break, you proceed to load the trucks with the freight. While carrying a box, unable to see the ground, you trip over a hose, which has been carelessly left in the middle of the walkway. When you hit the ground, you cause injury to your lower back. Immediately, you are in severe pain. Unable to stand, you call a co-worker to help you and are taken to the hospital to have a doctor look at the injury.

The doctor confirms your suspicions that you have a lumbrosacral strain injury. He tells you that this type of injury usually takes about two to three weeks to properly heal. You realize that your injury is covered by Workers' Compensation insurance and that your family support is not threatened. Concerning your specific injury, your employer has a clear policy concerning time away from work for workplace injuries which states that: Employees will remain away from work for the duration of the time that their family doctor has advised. At the end of the recovery period, employees will return to work and perform their usual job.

1. Based upon this situation, how willing would you be to exaggerate your pain and disability to ensure that you would get enough time to recover from your injury?

Not Willing	Slightly Willing	Somewhat Willing	Very Willing	Extremely Willing

2. Based upon this situation, would you tell your doctor that you do have pain, when indeed you do not?

Extremely Willing	Very Willing	Somewhat Willing	Slightly Willing	Not Willing

3. Knowing that reporting greater disability would most likely get you more time off work, how willing would you be to exaggerate your disability?

Not Willing	Slightly Willing	Somewhat Willing	Very Willing	Extremely Willing

4. In your opinion, how much pressure does the employer put on the employee to return to work quickly?

None	Slight	Moderate	High	Extremely High

5. Do you find the employer's policy fair and reasonable?

Not at All	Slightly	Moderately	Highly	Extremely

Age_____ Gender(M/F)_____ Ethnicity_____

Currently Employed (Y/N)_____

Have you previously been involved in a Worker's Compensation claim?(Y/N)_____

Questionnaire B

Please read the following scenario and answer the questions. There are no right or wrong answers.

Imagine that you have worked as a freight clerk for the past five years by a major manufacturing plant in your community. When you arrive at work, you sign in on your time card and proceed to report to your supervisor who assigns you your duties and workstation where you stay until you hear the bell for the lunch break.

Returning to your workstation after your lunch break, you proceed to load the trucks with the freight. While carrying a box, unable to see the ground, you trip over a hose, which has been carelessly left in the middle of the walkway. When you hit the ground, you cause injury to your lower back. Immediately, you are in severe pain. Unable to stand, you call a co-worker to help you and are taken to the hospital to have a doctor look at the injury.

The doctor confirms your suspicions that you have a lumbrosacral strain injury. He tells you that this type of injury usually takes about two to three weeks to properly heal. You realize that your injury is covered by Workers' Compensation insurance and that your family support is not threatened. Concerning your specific injury, your employer has a clear policy concerning time away from work for workplace injuries which states that: After one week off from work, employees will be placed into a "work-hardening" program that slowly increases the employee's workload. By the end of the recovery period that the doctor has set, employees will be back to performing their usual job.

1. Based upon this situation, how willing would you be to exaggerate your pain and disability to ensure that you would get enough time to recover from your injury?

Not Willing	Slightly Willing	Somewhat Willing	Very Willing	Extremely Willing

2. Based upon this situation, would you tell your doctor that you do have pain, when indeed you do not?

Extremely Willing	Very Willing	Somewhat Willing	Slightly Willing	Not Willing

3. Knowing that reporting greater disability would most likely get you more time off work, how willing would you be to exaggerate your disability?

Not Willing	Slightly Willing	Somewhat Willing	Very Willing	Extremely Willing

4. In your opinion, how much pressure does the employer put on the employee to return to work quickly?

None	Slight	Moderate	High	Extremely High

5. Do you find the employer's policy fair and reasonable?

Not at All	Slightly	Moderately	Highly	Extremely

Age_____ Gender(M/F)_____ Ethnicity_____

Currently Employed (Y/N)_____

Have you previously been involved in a Worker's Compensation claim?(Y/N)_____

Questionnaire C

Please read the following scenario and answer the questions. There are no right or wrong answers.

Imagine that you have worked as a freight clerk for the past five years by a major manufacturing plant in your community. When you arrive at work, you sign in on your time card and proceed to report to your supervisor who assigns you your duties and workstation where you stay until you hear the bell for the lunch break.

Returning to your workstation after your lunch break, you proceed to load the trucks with the freight. While carrying a box, unable to see the ground, you trip over a hose, which has been carelessly left in the middle of the walkway. When you hit the ground, you cause injury to your lower back. Immediately, you are in severe pain. Unable to stand, you call a co-worker to help you and are taken to the hospital to have a doctor look at the injury.

The doctor confirms your suspicions that you have a lumbrosacral strain injury. He tells you that this type of injury usually takes about two to three weeks to properly heal. You realize that your injury is covered by Workers' Compensation insurance and that your family support is not threatened. Concerning your specific injury, your employer has a clear policy concerning time away from work for workplace injuries which states that:

Employees will return to their workplace directly following examination at the hospital. Employees will then proceed to do low level office work such as running the paper shredder for one week. After the first week, employees will be placed into a "work-hardening" program that slowly increases the employee's workload. By the end of the third week, employees will be back to performing their usual job.

1. Based upon this situation, how willing would you be to exaggerate your pain and disability to ensure that you would get enough time to recover from your injury?

Not Willing	Slightly Willing	Somewhat Willing	Very Willing	Extremely Willing

2. Based upon this situation, would you tell your doctor that you do have pain, when indeed you do not?

Extremely Willing	Very Willing	Somewhat Willing	Slightly Willing	Not Willing

3. Knowing that reporting greater disability would most likely get you more time off work, how willing would you be to exaggerate your disability?

Not Willing	Slightly Willing	Somewhat Willing	Very Willing	Extremely Willing

4. In your opinion, how much pressure does the employer put on the employee to return to work quickly?

None	Slight	Moderate	High	Extremely High

5. Do you find the employer's policy fair and reasonable?

Not at All	Slightly	Moderately	Highly	Extremely

Age_____ Gender(M/F)_____ Ethnicity_____

Currently Employed (Y/N)_____

Have you previously been involved in a Worker's Compensation claim?(Y/N)_____

Vita

The author was born in Portland, Oregon to John and Vicki Dixon. He completed his secondary education at Barlow High School, graduating in 1995. He received a bachelor of arts in Psychology from Pacific Christian College in 1999. He is currently a graduate student in the doctoral program of the Department of Psychology at Louisiana State University, and will earn his master's degree in December 2002.